IN THE CLAIMS:

1. (Currently Amended) A mining member provided as a cutting roller for a continuously operating surface miner for mining mineral raw materials possessing solid and abrasive properties, the mining member comprising:

a cylindrical or substantially cylindrical roller basic body;

a drive for the roller basic body;

supports fastening the roller basic body to the surface miner;

a roller jacket connected to the roller basic body, the jacket having mini-disk bits arranged in rolling paths, and conveying screws having opposite pitches and extending from two edges of the roller to the middle of the roller ~~ro~~ to form two roller halves, which are symmetrical to one another providing a mineral raw material cutting roller for block cutting with a larger middle area forming a mining front joined on both sides by edge areas, the cutting roller ~~having~~ rolling paths ~~formed by said mini-disk bits~~ providing a circumferential interface with a middle cylinder joined on both sides by outwardly tapering frusta, said frusta having a length equal to at least 0.25 of a mining height $\cancel{(H_{Schm})}$ $(H_{Schn})$, and said conveying screws on the roller halves being arranged symmetrically ~~on the circumference~~ with respect to said circumferential interface, and said conveying screws on one of the roller halves being arranged offset in relation to the conveying screws on the other roller half by [[the]] an amount ~~of the distance between them~~ and sides of the conveying screws pointing to the middle of the cutting roller equipped with said mini-disk bits either directly or after them in the direction of rotation of the roller, wherein the driving wedge flanks of the mini-disk bits are directed against each

other in the <u>middle cylinder</u> wall area of the two roller halves and the mini-disk bit on the two frusta is directed inwardly, and the mini-disk bits arranged at the two outer edges are free-cutting bits, which point toward the outside with their wedge flanks.

2. (Original) A cutting roller in accordance with claim 1, wherein said mini-disk bits on said two halves of the wall are conveying screws with a path distance that is determined according to the following equation:

$$t_B = p_\Sigma \cdot \eta_m,$$

where $p_\Sigma$ can be assumed to equal 15-20 mm and $\eta_m$ can be assumed to equal 3-4 for solid and brittle earth materials and $\eta_m$ = 3.5-5 for solid and tough earth materials.

3. (Original) A cutting roller in accordance with claim 1, wherein a density of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) is at least twice the number of the mini-disk bits in the middle wall area $L_M$, and the conveying screws on the frustum length ($L_{RB}$) are higher by the depth of penetration of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) than the conveying screws and the additional conveying screws in the middle wall area ($L_M$).

4. (Original) A cutting roller in accordance with claim 1, wherein that the roller body is equipped on its frustum areas with additional conveying screws and the free-cutting mini-disk bits in the outer rolling path are arranged at an angle that is equal to or greater than the

angle of the outer wedge flank of the mini-disk bit sloped toward the outside.

5. (Original) A cutting roller in accordance with claim 1, wherein the conveying screws extend over the entire length of the respective roller half.

6. (Original) A cutting roller in accordance with claim 1, wherein two said mini-disk bits are arranged in pairs on a common bit holder, and the bit holders are arranged either directly on the cutting roller or on the screw turns and said additional conveying screws or behind the cutting roller or on the screw turns and said additional conveying screws in the direction of rotation of the roller and the distance between the wedge flanks of the mini-disk bits of one pair is also the cutting line distance.

7. (Original) A cutting roller in accordance with claim 1, wherein to obtain different path distances of the mini-disk bits belonging to one pair, said axes of adapted lengths are used.

8. (Original) A cutting roller for a continuously operating surface miner for mining mineral raw materials of high strength, the cutting roller comprising:

a roller body with <u>conveying screws having opposite pitches and extending from two respective edges of the roller to the middle of the roller to form roller halves with conveying screws on one of the roller halves being arranged offset in relation to the conveying screws on</u>

the other roller half and with mini-disk bits mounted on each conveying screw to form rolling paths with said mini-disk bits at edge areas placed at a greater density than mini-disk bits in a middle area, with the mini-disk bits at the two outer edges of the cutting roller being directed obliquely toward the outside as free-cutting bits, the mini-disk bits having a mining height ~~to define individual virtual~~ with the rolling paths ~~which~~ together ~~form~~ forming a virtual cutting roller body having a middle cylinder joined on both sides by outwardly tapering frusta, said frusta having a length equal [[to]] of at least 0.25 of [[a]] said mining height

9. (Original) A cutting roller in accordance with claim 8, wherein said mini-disk bits are on conveying screws with a path distance that is determined according to the following equation:

$$t_B = p_\Sigma \cdot \eta_m,$$

where $p_\Sigma$ can be assumed to equal 15-20 mm and $\eta_m$ can be assumed to equal 3-4 for solid and brittle earth materials and $\eta_m$ = 3.5-5 for solid and tough earth materials.

10. (Original) A cutting roller in accordance with claim 8, wherein a density of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) is at least twice the number of the mini-disk bits in the middle wall area $L_M$, and the conveying screws on the frustum length ($L_{RB}$) are higher by the depth of penetration of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) than the conveying screws and the additional conveying screws in the

middle wall area ($L_M$).

11. (Original) A cutting roller in accordance with claim 8, wherein that the roller body is equipped on its frustum areas with additional conveying screws and the free-cutting mini-disk bits in the outer rolling path are arranged at an angle that is equal to or greater than the angle of the outer wedge flank of the mini-disk bit sloped toward the outside.

12. (Original) A cutting roller in accordance with claim 8, wherein the conveying screws extend over the entire length of the respective roller half.

13. (Original) A cutting roller in accordance with claim 8, wherein two said mini-disk bits are arranged in pairs on a common bit holder, and the bit holders are arranged either directly on the cutting roller or on the screw turns and said additional conveying screws or behind the cutting roller or on the screw turns and said additional conveying screws in the direction of rotation of the roller and the distance between the wedge flanks of the mini-disk bits of one pair is also the cutting line distance.

14. (Original) A cutting roller in accordance with claim 8, wherein to obtain different path distances of the mini-disk bits belonging to one pair, said axes of adapted lengths are used.

15. (New) A cutting roller member for a surface miner for mining mineral raw materials possessing solid and abrasive properties, the cutting roller member comprising:

a drive;

surface miner supports;

a roller jacket, connected to said supports and driven by said drive;

a first side conveying screw extending from a first roller jacket edge to the middle of said roller jacket;

a second side conveying screw extending from a second roller jacket edge to the middle of said roller jacket, said second side conveying screw having a pitch that is opposite a pitch of said first side conveying screw and being offset so as to not intersect in the middle;

a set of mini-disk bits providing a mining height, said mini-disk bits being arranged in roller paths along said first conveying screw and said second conveying screw, said mini-disk bits forming a virtual cutting roller body with a symmetrical profile having a cylindrical middle area and frusta shaped at each side of the virtual cutting roller body with reduced radial dimension at side edges of the virtual cutting roller body, each said frusta having an axial length that is at least a quarter of the mining height, said mini-disk bits in said cylindrical middle area having wedge flanks in one half of said cylindrical middle area directed outwardly and opposite wedge flanks in the other half of said cylindrical middle area and said mini-disk bits in each frusta area being directed inwardly, and mini-disk bits at said side edges being free-cutting bits with wedge flanks directed outwardly.

16. (New) A cutting roller member in accordance with claim 15, wherein said mini-disk bits on said two halves of the wall are conveying screws with a path distance that is determined according to the following equation:

$$t_B = p_\Sigma \cdot \eta_m,$$

where $p_\Sigma$ can be assumed to equal 15-20 mm and $\eta_m$ can be assumed to equal 3-4 for solid and brittle earth materials and $\eta_m = 3.5\text{-}5$ for solid and tough earth materials.

17. (New) A cutting roller member in accordance with claim 15, wherein a density of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) is at least twice the number of the mini-disk bits in the middle wall area $L_M$, and the conveying screws on the frustum length ($L_{RB}$) are higher by the depth of penetration of the mini-disk bits in the two edge areas on the frustum length ($L_{RB}$) than the conveying screws and the additional conveying screws in the middle wall area ($L_M$).